

TYPE	DATE	TIME		AGENCY	DESCRIPTION	PAGE
Area Forecast Discussion	6/14/2018	1406	PDT	San Diego	...High temperatures will be on the downward trend through Sunday as heights lower over southern CA from an upper-level low moving into the Great Basin....West to southwest wind gusts of 35 to 50 mph are possible over the mountains, through passes and along desert mountain slopes into adjacent deserts late Saturday into early Sunday as a trough moves across the area....	40
Area Forecast Discussion	6/15/2018	1330	PDT	San Diego	Over the weekend a stronger, colder trough will deepend along the West Coast...unseasonably strong trough over NoCal...	42
Area Forecast Discussion	6/16/2018	0240	PDT	San Diego	Gusty westerly winds will increase a bit over the mountains/deserts, peaking Sunday afternoon/evening...	44
Area Forecast Discussion	6/16/2018	0315	MST	Phoenix	Much of Southeast California, and particularly along Interstate 8 near Ocotillo and northward through Kane Spring, will be fairly breezy Saturday and Sunday afternoons. Given that very little precipitation fell in this area, and the atmosphere will quickly dry out tomorrow, blowing dust may be a slight concern here	46
Area Forecast Discussion	6/16/2018	0330	MST	Tucson	Based on satellite trends over the past 12 hours, the remnant circulation from Bud sheared out over northern Mexico last night. Further west there was an	49
Area Forecast Discussion	6/16/2018	0930	PDT	San Diego	Other impacts from this trough will be the cooler than average temperatures and the gusty westerly winds in the mountains and deserts.	51
Area Forecast Discussion	6/16/2018	1317	MST	Phoenix	High temperatures over southeast California and the Lower Colorado River Valley will still be in the mid to upper 90s as dry air continues to stream northeast and allow for skies to clear. Southerly-southwesterly winds will gust to 25-30 mph over the Lower Colorado River Valley this afternoon, with gusts to 25-30 mph later tonight for areas further west in Imperial and Riverside Counties coming off the higher terrain...	53
Area Forecast Discussion	6/16/2018	1400	PDT	San Diego	Sunday will be a cool day, relative to the average highs for June, with highs 5 degrees below average in the coastal zones and 10-20 degrees below average elsewhere. Blustery northwest winds will impact the mountains and deserts with gusts of 40 to 50 mph in the San Gorgonio Pass and the other east-west mountain passes.	57
Area Forecast Discussion	6/16/2018	1606	MST	Phoenix	southwest flow aloft is maintained by the closed low pressure system aloft that will push into the Great Basin. Wind gusts to 25-30 mph will once again be possible tomorrow for the Lower Colorado River Valley and southeast California, with gusts to 15-20 mph possible elsewhere.	59
Area Forecast Discussion	6/16/2018	2106	PDT	San Diego	The onshore flow has increased, pushing strong winds in the mountains and deserts this evening with a few spots gusting over 40 mph. Some blowing dust crossing the Salton Sea could be seen on the satellite image before dark. Similar winds through mountain passes and adjacent deserts are expected late Sunday.	62
Area Forecast Discussion	6/17/2018	0258	PDT	San Diego	The onshore sfc pressure gradient was still about 13 MBS KSAN to SW NV supporting westerly wind gusts over 50 MPH through both the San Gorgonio Pass and the Mountain Springs I-8 grade into Imperial County.	64
Area Forecast Discussion	6/17/2018	1010	PDT	San Diego	Gusty westerly winds will continue over the mountains and deserts, funneling cool, marine air well inland.	66

TYPE	DATE	TIME		AGENCY	DESCRIPTION	PAGE
Area Forecast Discussion	6/17/2018	1246	MST	Phoenix	A tightened pressure gradient will also keep surface winds slightly elevated with gusts up to 20 to 30 mph. All in all, the remainder of Father`s Day will consist of clear skies, breezy winds, and below normal temperatures with highs near the mid 90s across the lower deserts.	68
Area Forecast Discussion	6/17/2018	1439	MST	Phoenix	A tightened pressure gradient will also keep surface winds slightly elevated with gusts up to 20 to 30 mph.	70
Area Forecast Discussion	6/17/2018	2113	PDT	San Diego	There were some strong wind gusts over 50 mph in isolated parts of the mountains and deserts, and stirred up some dust in Imperial County.	72
Public Information Statement	6/18/2018	0520	PDT	San Diego	...WIND REPORTS.....San Diego County Deserts... Ocotillo Wells (4 W) 39 MPH 0706 AM 06/17 436 Borrego Springs (7 SE) 36 MPH 0938 PM 06/17 587 In Ko Pah 36 MPH 0200 PM 06/17 3221 Borrego Springs (2 E) 34 MPH 0230 PM 06/17 720 Julian (9 ESE) 33 MPH 0757 AM 06/17 2011 Borrego Springs (9 S) 31 MPH 0610 AM 06/17 768	74

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FXUS66 KSGX 142106

AFDSGX

Area Forecast Discussion

National Weather Service San Diego CA

206 PM PDT Thu Jun 14 2018

.SYNOPSIS...

A weak low pressure system off the Southern California coast will draw some mostly mid level tropical moisture into portions of Southern California through Friday afternoon with virga or a few light showers and isolated thunder possible. A strengthening low pressure system over the western states will bring stronger onshore flow and cooling Friday night through the weekend. The marine layer will deepen with coastal low clouds spreading into portions of the inland valleys for the weekend and areas of drizzle in the mornings. A slight warming trend is expected for early next week with the coastal low clouds not spreading as far into the valleys.

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.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE...
SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO
COUNTIES...

At 1 PM, water vapor satellite imagery displayed an upper-level ridge over southwestern New Mexico, an upper-level low around 360 miles west southwest of San Diego and Tropical Storm Bud around 850 miles southeast of San Diego. Tropical moisture moving up from the south, combined with upper-level instability from the low just off the coast, was creating isolated to scattered showers around 100 miles south southwest of San Diego. Additional tropical moisture will move more into our area today, and combined with weak upper-level instability, high-res models show isolated showers or thunderstorms developing over portions of San Diego and Riverside Counties at times this afternoon through overnight. Flash flooding is not expected to be much of a threat, but cannot be completely ruled out. The main threat from storms will be lightning and gusty downdraft winds. A slight chance of thunderstorms will continue Friday, mainly over portions of the mountains and deserts.

High temperatures will be on the downward trend through Sunday as heights lower over southern CA from an upper-level low moving into the Great Basin. Sunday will have high temperatures 5-15 deg F below, and a deep marine layer could generate some drizzle across the coastal basin Saturday and Sunday mornings. West to southwest wind gusts of 35 to 50 mph are possible over the mountains, through passes and along desert mountain slopes into adjacent deserts late Saturday into early Sunday as a trough moves

June 17, 2018 Exceptional Event, Imperial County
across the area.

Models are starting to agree with solutions for the middle of next week, with the weekend upper-level low lingering over the Great Basin and an upper-level ridge building around 700 miles west of San Diego. This set up will create a slight warming trend by the middle of next week with highs still remaining around 5 degrees below seasonal normals and a moderately deep marine layer.

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.AVIATION...

142030Z...SKC at KSAN, KCRQ and KSNA through 02Z. Stratus pushing inland after 15/02Z with BKN-OVC008-012 surging 15-20 miles inland through 15Z Friday. Areas of vis 3-5 miles in FG/HZ between 10-15Z. Skies clearing from the coastal TAF sites on Friday between 15-17Z.

Above the marine layer an upper level disturbance will bring increasing clouds AOA 10kft along with a small chance of thunderstorms over San Diego County tonight and Friday, mainly over San Diego County and eastern Riverside County.

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.MARINE...

There is a slight chance of thunderstorms over the coastal waters early tonight, but most of the activity will remain south and east of our area. No hazardous marine weather is expected Friday through Monday.

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.SKYWARN...

Skywarn activation is not requested. However weather spotters are encouraged to report significant weather conditions.

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.SGX WATCHES/WARNINGS/ADVISORIES...

CA...NONE.

PZ...NONE.

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PUBLIC...JJT

AVIATION/MARINE...Moede

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FXUS66 KSGX 152042

AFDSGX

Area Forecast Discussion

National Weather Service San Diego CA

130 PM PDT Fri Jun 15 2018

.SYNOPSIS...

A trough of low pressure will drift across Southern California tonight bringing mid and high levels clouds and a chance for evening showers in the mountains and deserts. Over the weekend a stronger, colder trough will deepen along the West Coast and bring cooler weather and a deeper marine layer. Areas of light rain and drizzle are likely west of the mountains Sunday morning. This cool weather pattern will continue into early next week, followed by warmer weather Wednesday through Friday with high pressure building aloft.

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.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE...
SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO
COUNTIES...

Weak radar echoes over northern Baja this morning drifted north into San Diego County but there hasn't been any precipitation reported through 1 PM. There may be a few sprinkles or light showers this afternoon/evening over the San Diego or Riverside County mountains, but the atmosphere is too stable for rain of any significance. The best chances for showers will be east over Imperial County and Arizona where moisture is more plentiful.

The precipitable water on the 12Z NKX sounding was 1.21" this morning but will lower to less than 1.00" tonight and Saturday as the trough over SoCal drifts east. The pattern turns distinctly onshore with dry northwest flow aloft forcing the tropical moisture east. Temperatures will trend downward over the weekend with highs from 5 degrees below average near the coast to 15-20 degrees below average in the inland areas.

Although the tropical moisture bypassed our area and we didn't get any rain, there will be a chance for light rain or drizzle Sunday morning west of the mountains in a deep marine layer. On Saturday morning the marine layer will deepen to around 2500 feet in the onshore flow ahead of an unseasonably strong trough over NoCal. On Sunday the marine layer will deepen to 4500 feet, deep enough for pockets of light rain and drizzle west of the mountains. Skies will be slow to clear Sunday.

Long Range outlook Monday through Friday: Both the GFS and ECMWF are in better agreement in the extended. Cool northwest flow continues into Monday, followed by a building ridge over the Pacific west of

June 17, 2018 Exceptional Event, Imperial County**Appendix A**

SoCal for warming Tuesday and Wednesday. The warming continues Thursday and Friday when temperatures will be 5-10 degrees above average.

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.AVIATION...

152030Z...Low clouds, with bases around 1300 ft MSL and tops near 2000 ft MSL, will linger along the southern San Diego county beaches throughout the afternoon. Variable mid and high clouds will stream across the region today, with an isolated SHRA/TSRA possible over some inland areas this afternoon. Heavy rain is not expected, however gusty surface and up/downdraft winds and lightning are possible near storms. Stratus will redevelop along the coast tonight and push 20-40 miles inland by early Saturday morning, with slightly higher tops and bases. VIS of 2-4 SM BR is possible tonight where low clouds near higher terrain. Stratus will clear towards the coast by late Saturday morning and may again linger along the beach through the afternoon.

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.MARINE...

No hazardous marine weather is expected through Tuesday.

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.SKYWARN...

Skywarn activation is not requested. However weather spotters are encouraged to report significant weather conditions.

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.SGX WATCHES/WARNINGS/ADVISORIES...

CA...NONE.

PZ...NONE.

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PUBLIC...Moede

AVIATION/MARINE...JJT

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FXUS66 KSGX 160940

AFDSGX

Area Forecast Discussion

National Weather Service San Diego CA

240 AM PDT Sat Jun 16 2018

.SYNOPSIS...

A stronger, colder trough will deepen along the West Coast this weekend, bringing much cooler weather inland, and a deeper marine layer. The marine layer may leak some drizzle at times as it thickens toward the coastal mountain slopes tonight into Sunday morning. This cool weather pattern will continue into Monday, followed by warmer weather into mid next week as high pressure builds aloft.

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.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE...
SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO
COUNTIES...

A mix of high and low, marine clouds continue across SoCal early this morning. The higher clouds were drifting to the west and southwest and thinning, revealing the marine clouds below. At 2 AM PDT...Surface pressure gradients were weaker to the east but a bit stronger onshore, sustaining westerly wind gusts of 25-35 MPH in the windier spots.

A weak upper low is drifting over the region early this morning, and will be replaced by a deeper longwave trough Sun morning. As the trough axis swings through on Sunday, the marine layer should reach maximum depth, possibly sparking areas of drizzle west of the mts. This could make for a damp Fathers Day morning in some areas. Clearing may be later than usual and limited in some areas as well.

Gusty westerly winds will increase a bit over the mts/deserts, peaking Sunday afternoon/evening. This pattern will result in afternoon highs some 10-15 degrees below average inland, offering a brief respite in the deserts from the heat.

Early next week the trough retreats back to the north, allowing onshore flow to weaken and the marine layer to shrink back toward the Coast. Expect a corresponding warming trend, especially inland where mtn/desert daytime highs will be some 5-10 degrees F above average by midweek. Near the Coast, temperatures may actually be close to, or a bit below average through mid next week with marine clouds possibly becoming more persistent below a strengthening inversion.

The ECMWF operational runs continue to advertise a stronger upper-level high over SoCal next week than the GFS runs, but both suggest

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sfc onshore flow will continue to provide cooling sea breezes. Even though the ECMWF is more aggressive and persistent with the upper high next week, the model shows it collapsing over SoCal late next week beneath a deepening longwave trough over the West. The 00Z operational GFS run does not show the trough late in the week, but instead keeps higher heights/thickness over the SW under weak ridging after the 24th of the month.

Despite the model differences in the extended period...both keep the weather dry for another ten days (except for Sunday) with mainly temperature and marine layer differences.

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.AVIATION...

160930Z...Coast/Valleys...Low clouds with bases 1500-2000 ft MSL and tops near 2500 feet will continue to spread into the valleys through the morning. Bases will lift to around 1800-2200 ft MSL after 15Z, clearing inland 15-18Z. Little, if any, clearing is expected along the coast and up to 10 mi inland this afternoon. Low clouds will quickly spread back into the valleys after 17/02Z, reaching the lower coastal mountain slopes overnight. Bases will remain near 1500-2000 ft MSL with tops rising to around 4500 ft MSL. Areas of DZ/-RA possible after 17/08Z with local 3-5 SM vis and CIGS lowering to around 1000 ft MSL.

Mountains/Deserts...Decreasing clouds AOA 15000 ft MSL today. Southwest winds with gusts 25-40 kt developing over the desert mountain slopes/desert foothills and through the passes and canyons after 21Z. Areas of MOD UDDFS and LLWS possible over and NE of the mountains this afternoon through tonight. Lower coastal slopes of the mountains becoming obscured in clouds/fog late tonight.

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.MARINE...

No hazardous marine weather is expected through Wednesday.

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.SKYWARN...

Skywarn activation is not requested. However weather spotters are encouraged to report significant weather conditions.

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.SGX WATCHES/WARNINGS/ADVISORIES...

CA...NONE.

PZ...NONE.

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FXUS65 KPSR 161015

AFDPSR

Area Forecast Discussion

National Weather Service Phoenix AZ

315 AM MST Sat Jun 16 2018

.SYNOPSIS...

Clouds, scattered showers and the chance for isolated thunderstorms will continue before gradually shifting off to the northeast by Saturday evening. The window for stronger storms to develop will open early Saturday afternoon, mainly from western Maricopa County and locations to the east. No rain chances are in the forecast beyond Saturday. Temperatures will be coolest Saturday, then very gradually warm up through the middle of next week.

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.DISCUSSION...

Saturday ended with just a trace of rain at the Phoenix, Yuma and Imperial airports...which is quite a feat for those locations in mid June. The best convective activity occurred in northwestern La Paz and eastern Riverside counties where a few small thunderstorms produced pea sized hail. Current radar shows mostly light showers in primarily two regions...one stretching from Lukeville near the Mexico border northward through western Maricopa County and the other further east over Gila County. The GOES-16 midlevel infrared channel confirms the best moisture remains over the eastern two-thirds of Arizona, although there is some clearing developing over southeastern Arizona that is spreading north. The radar trends indicate these showers are likely to continue to lift further north through morning.

Saturday looks to be a more robust day for convection in South-Central Arizona with favorable upper level dynamics combined with abundant low level moisture. In fact, early morning dew points are in the mid 60's to low 70's across most desert locations. Some early day clearing will allow for better solar insolation resulting in an increase in instability by the early afternoon when models show a healthy dose of CAPE upwards of 1000-1800 j/kg across La Paz- Maricopa-and Pinal counties with hardly any CIN. The majority of the CAMs indicate some stronger storms, albeit isolated in coverage, initiating south and west of the Phoenix area early Saturday afternoon before moving closer the Valley. The greatest threats with these storms are likely to be brief heavy rains, strong winds and outflows, blowing dust and small hail. With precipitable water values remaining very high at 1.50 inches (which is at the 99th percentile of climatology) a flooding hazard is not out of the question. The total rainfall accumulation for

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places that do receive rain looks great for mid June with the GEFS plumes mean total just below 0.30 inches for Phoenix and slightly higher over the Mogollon Rim. Meanwhile, storm coverage along the Colorado River Valley and further west through Southeast California is not very likely.

The thunderstorm threat begins to subside as an upper level low pushes across Baja California towards Arizona bringing drier southwesterly flow and eventually pushing much of the moisture well to our east. We should see substantial clearing by late afternoon and early evening. Temperatures for central desert locations will remain in the low to mid 90's while western Arizona and Imperial County will warm closer to 100 degrees where conditions will begin to dry a bit earlier. Much of Southeast California, and particularly along Interstate 8 near Ocotillo and northward through Kane Spring, will be fairly breezy Saturday and Sunday afternoons. Given that very little precipitation fell in this area, and the atmosphere will quickly dry out tomorrow, blowing dust may be a slight concern here.

By Sunday, the aforementioned low will advance further east allowing dry conditions to completely settle over the region and bringing clear skies with a gradual warmup through the week. Expect a return to the triple digits across the area by Monday as the Four Corners high pressure that is the hallmark of the monsoon reforms further west keeping moisture away from Arizona.

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.AVIATION...

South-Central Arizona including KPHX, KIWA, and KSDL:

Showers are forecast to increase over the terminals tonight as moisture from Hurricane Bud moves over our area. Only light stratiform precipitation is expected tonight while winds generally remain less than 10 kts. As moisture continues to increase, ceilings could be of concern as they are forecast to lower near 6-8 kft 12Z Saturday.

Beyond this, the rest of Saturday could potentially be a very active day in terms of thunderstorms for the Phoenix terminals. Clearing skies will allow for more daytime heating and thunderstorm development. Several models indicate convection could begin late Saturday morning and last into the evening hours. Whatever does develop will have the potential to produce very strong, erratic winds with outflows likely kicking up some dust and reducing visibilities. It is not entirely out of the question to have a full blown dust storm (visibilities < 1/2 mile) near thunderstorms on Saturday although location and timing is highly uncertain. For now, have mentioned VCTS starting around 18Z but have left out strong outflow winds and dust for now.

Southeast California/Southwest Arizona including KIPL and KBLH:

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High and mid-level clouds continue over the terminals this evening as moisture from remnant Hurricane Bud moves over the area. Generally, ceilings will be above 20 kft but could be as low as 10 kft early tonight. Clouds will exit the area early Saturday morning while breezy southerly flow redevelops near KBLH with gusts at or below 25 kts. For KIPL, winds will generally remain less than 10 kts on Friday morning/afternoon before strong westerly sundowner winds develop in the evening.

Aviation Discussion not updated for amended TAFs.

&&

.FIRE WEATHER...

Monday through Friday:

High pressure and dry westerly flow aloft to keep dry conditions in place across the region for the entire period. Daily minimum humidities are expected to fall into the 8-13 percent range each day, with poor-fair overnight recoveries. Below normal temperatures on Monday to recover to near, or slightly above normal by Thursday and Friday. Winds to mainly follow typical diurnal patterns, with some gustiness possible during the afternoon hours.

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.SPOTTER INFORMATION STATEMENT...

Spotter reports may be needed through Saturday.

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.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...None.

CA...None.

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DISCUSSION...Deemer

AVIATION...Wilson

FIRE WEATHER...Percha

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FXUS65 KTCW 161030

AFDTWC

Area Forecast Discussion

National Weather Service Tucson AZ

330 AM MST Sat Jun 16 2018

.SYNOPSIS...An upper level trof will interact with a very moist atmosphere for mid-June to produced scattered showers and thunderstorms today. Remaining cool today followed by dry conditions Sunday and the return of June heat early next week.

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.DISCUSSION...Based on satellite trends over the past 12 hours, the remnant circulation from Bud sheared out over northern Mexico last night. Further west there was an approaching upper level low pressure system that was off the northern Baja coast as of 2 am. This feature will be the driving force in our weather today and tonight. The widespread rain shield that was over the area last night has decreased early this morning. A few thunderstorms were occurring over western Pima county and northwestern Sonora MX as cloud tops cool. Moisture wise record or near record PW values for mid-June is over the area. As the upper low pushes east across the area today scattered/numerous showers, isolated/scattered thunderstorms will be around with localized heavy rainers possible near strongest cells. The flash flood threat is up a little versus yesterday. Cloud cover/showers will bring about another cool mid-June day.

Upper level trof pushes east late tonight into Sunday morning with showers ending from west to east. High temperatures start to rebound on Sunday.

Dry next week with temperatures warming back to above normal by the end of the week.

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.AVIATION...Valid through 17/12Z.

Localized MFVR conditions this morning with scattered showers and isolated thunderstorms. As an upper low approaches the area from the west, expect areal coverage of showers and thunderstorms to increase. Light SFC winds this morning becoming WLY/NWLY at 12-15 kts. Gusts to 35 kts possible near any -TSRA. Aviation discussion not updated for TAF amendments.

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.FIRE WEATHER...Showers and thunderstorms will continue into this afternoon before diminishing from west to east tonight. If there

June 17, 2018 Exceptional Event, Imperial County

Appendix A

are some breaks in the clouds, some of the thunderstorms may be strong enough to produce localized heavy rainfall. Recent burn scars could experience increased runoff possibly leading to some flooding, particularly the Frye and Lizard fire burn scars. Dry conditions return to the area Sunday and continuing through next week along with a warming trend.

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.CLIMATE...Looking at another day of daily rainfall records to be approached or broken. Some locations might also be close to daily record low maximum temperatures.

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.TWC WATCHES/WARNINGS/ADVISORIES...None.

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FXUS66 KSGX 161636

AFDSGX

Area Forecast Discussion

National Weather Service San Diego CA

930 AM PDT Sat Jun 16 2018

.SYNOPSIS...

A trough moving down the coast this weekend will bring cooling this weekend and a very deep marine layer. Areas of light rain and drizzle are likely west of the mountains Sunday morning. The trough will lift north early next week followed by significantly warmer days Wednesday through Friday as high pressure builds aloft.

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**.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE...
SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO
COUNTIES...**

A deep 4000 foot marine layer produced patchy drizzle west of the mountains this morning. Skies were slowly clearing from the inland valleys this morning, but may not completely clear from the coastal zones today.

The marine layer will be even deeper tonight as onshore flow strengthens ahead of an unusually deep trough over NoCal. There are hints of a weak coastal eddy tonight too, so that by late tonight the marine layer will be around 5000 feet deep. This deep marine layer combined with broad cyclonic flow aloft, a weak coastal eddy and perhaps weak PVA aloft will bring areas of light rain and drizzle west of the mountains Sunday morning. Clearing will be slow on Sunday, and stratocu will form in areas that do see some clearing. Other impacts from this trough will be the cooler than average temperatures and the gusty westerly winds in the mountains and deserts.

From Previous Discussion

Early next week the trough retreats back to the north, allowing onshore flow to weaken and the marine layer to shrink back toward the Coast. Expect a corresponding warming trend, especially inland where mtn/desert daytime highs will be some 5-10 degrees F above average by midweek. Near the Coast, temperatures may actually be close to, or a bit below average through mid next week with marine clouds possibly becoming more persistent below a strengthening inversion.

The ECMWF operational runs continue to advertise a stronger upper-level high over SoCal next week than the GFS runs, but both suggest sfc onshore flow will continue to provide cooling sea breezes. Even

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though the ECMWF is more aggressive and persistent with the upper high next week, the model shows it collapsing over SoCal late next week beneath a deepening longwave trough over the West. The 00Z operational GFS run does not show the trough late in the week, but instead keeps higher heights/thickness over the SW under weak ridging after the 24th of the month.

Despite the model differences in the extended period...both keep the weather dry for another ten days (except for Sunday) with mainly temperature and marine layer differences.

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.AVIATION...

161530Z...Coast/Valleys...Low clouds with bases 1500-2000 ft MSL and tops near 2500 feet will continue across the coast and valleys through midday. Bases will lift to 2000-2500 ft MSL 16-19Z, with clearing inland locations by the end of this period. Expect BKN MVFR conditions to continue for the coastal terminals (KSAN/KCRQ/KSNA) most of the day though may scatter out for periods from 20-00Z. Haze (visibility 4-6SM) is expected for the inland empire terminals. Low clouds will quickly spread back into the valleys after 17/02Z, reaching the lower coastal mountain slopes overnight. Expect a deeper marine layer tonight/Sunday morning with bases 1200-1800 ft MSL and tops around 3500 ft MSL. Patchy light rain and drizzle are expected with visibilities locally reduced to 3-5SM. Low clouds will persist most of Sunday but will clear out by midday inland valleys.

Mountains/Deserts...Expect decreasing cloudiness today. Winds will become northwest 15-25 kts with local gusts 25-35 kts after 21Z today over the desert mountain slopes/desert foothills and through the passes and canyons. Areas of MOD UDDFS and LLWS possible over and NE of the mountains this afternoon through tonight. Lower coastal slopes of the mountains becoming obscured in clouds/fog late tonight.

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.MARINE...

No hazardous marine weather is expected through Wednesday.

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.SKYWARN...

Skywarn activation is not requested. However weather spotters are encouraged to report significant weather conditions.

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.SGX WATCHES/WARNINGS/ADVISORIES...

CA...NONE.

PZ...NONE.

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FXUS65 KPSR 162017

AFDPSR

Area Forecast Discussion

National Weather Service Phoenix AZ

117 PM MST Sat Jun 16 2018

.UPDATE...Updated aviation and short-term discussion

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.SYNOPSIS...

Clouds, scattered showers and the chance for isolated thunderstorms will continue before gradually shifting off to the northeast by Saturday evening. The window for stronger storms to develop will open early Saturday afternoon, mainly from western Maricopa County and locations to the east. No rain chances are in the forecast beyond Saturday. Temperatures will be coolest Saturday, then very gradually warm up through the middle of next week.

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.DISCUSSION...

Shower and isolated thunderstorm activity is generally beginning to push north and east of the Phoenix metro with brief clearings noted across the area. However, temperatures will have a hard time increasing too much this afternoon as dewpoints remain in the upper 60s across most of the region. Thus, we have increased dew points more in line with observations and decreased high temperatures about five degrees below the previous forecast for the Phoenix metro (to the mid to upper 80s) and the higher terrain north and east of the metro. High temperatures over southeast California and the Lower Colorado River Valley will still be in the mid to upper 90s as dry air continues to stream northeast and allow for skies to clear. Southerly-southwesterly winds will gust to 25-30 mph over the Lower Colorado River Valley this afternoon, with gusts to 25-30 mph later tonight for areas further west in Imperial and Riverside Counties coming off the higher terrain.

Aircraft soundings suggest that we are starting to see some drying at midlevels between 7-10 kft that may help destabilize the atmosphere stability over the next few hours for the Phoenix metro and areas further north and east. However, this is probably too late to get any convective development for most of the Phoenix metro without the assistance of terrain, which was generally the case with showers that developed along South Mountain and a thunderstorm that developed near Camelback Mountain this morning. In both of those cases, a stable layer centered at 20 kft limited prolonged deep convective development. Showers are starting to redevelop along the higher terrain north and east of the metro,

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and this is the area where we expected to see the greatest potential for storm development over the next few hours. Another area to watch is Pinal and southwestern Maricopa Counties where midlevel drying is most likely greatest and an isolated thunderstorm has already developed right on I-8 near the county border with tops to 35 kft. Gusty winds will be possible with these storms and a dust storm cannot be ruled out as DCAPE values appear to be increasing rapidly just south of this area, but significant moisture should lower this potential and keep any impacts to very localized areas. Hi-res models quickly take the back edge of this convective activity northeast into Gila County within the next 3-6 hours, before moving out of the county warning area entirely by late evening.

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.PREVIOUS DISCUSSION...

Friday ended with just a trace of rain at the Phoenix, Yuma and Imperial airports...which is quite a feat for those locations in mid June. The best convective activity occurred in northwestern La Paz and eastern Riverside counties where a few small thunderstorms produced pea sized hail. Current radar shows mostly light showers in primarily two regions...one stretching from Lukeville near the Mexico border northward through western Maricopa County and the other further east over Gila County. The GOES-16 midlevel infrared channel confirms the best moisture remains over the eastern two-thirds of Arizona, although there is some clearing developing over southeastern Arizona that is spreading north. The radar trends indicate these showers are likely to continue to lift further north through morning.

Saturday looks to be a more robust day for convection in South-Central Arizona with favorable upper level dynamics combined with abundant low level moisture. In fact, early morning dew points are in the mid 60's to low 70's across most desert locations. Some early day clearing will allow for better solar insolation resulting in an increase in instability by the early afternoon when models show a healthy dose of CAPE upwards of 1000-1800 j/kg across La Paz- Maricopa-and Pinal counties with hardly any CIN. The majority of the CAMs indicate some stronger storms, albeit isolated in coverage, initiating south and west of the Phoenix area early Saturday afternoon before moving closer the Valley. The greatest threats with these storms are likely to be brief heavy rains, strong winds and outflows, blowing dust and small hail. With precipitable water values remaining very high at 1.50 inches (which is at the 99th percentile of climatology) a flooding hazard is not out of the question. The total rainfall accumulation for places that do receive rain looks great for mid June with the GEFS plumes mean total just below 0.30 inches for Phoenix and slightly higher over the Mogollon Rim. Meanwhile, storm coverage along the Colorado River Valley and further west through Southeast California is not very likely.

The thunderstorm threat begins to subside as an upper level low

June 17, 2018 Exceptional Event, Imperial County**Appendix A**

pushes across Baja California towards Arizona bringing drier southwesterly flow and eventually pushing much of the moisture well to our east. We should see substantial clearing by late afternoon and early evening. Temperatures for central desert locations will remain in the low to mid 90's while western Arizona and Imperial County will warm closer to 100 degrees where conditions will begin to dry a bit earlier. Much of Southeast California, and particularly along Interstate 8 near Ocotillo and northward through Kane Spring, will be fairly breezy Saturday and Sunday afternoons. Given that very little precipitation fell in this area, and the atmosphere will quickly dry out tomorrow, blowing dust may be a slight concern here.

By Sunday, the aforementioned low will advance further east allowing dry conditions to completely settle over the region and bringing clear skies with a gradual warmup through the week. Expect a return to the triple digits across the area by Monday as the Four Corners high pressure that is the hallmark of the monsoon reforms further west keeping moisture away from Arizona.

&&

.AVIATION...

South-Central Arizona including KPHX, KIWA, and KSDL:

Shower activity is generally beginning to push northeast of the Phoenix terminals with brief clearings and lifted ceilings noted across the area. Another round of showers and thunderstorms is still possible later this afternoon between 22-01Z as these clearings may help destabilize the area, but chances are less than 20 percent so we have left any mention of TS out of the TAFs at this time. For now, we just have vicinity showers ending from west to east this afternoon, with chances lasting longer at KIWA and KSDL where moisture and forcing from terrain may help sustain this activity. Brief periods of MVFR ceilings will be possible at all terminals associated with any convective activity that develops, which we will handle with amendments as needed.

Conditions should be too moist to allow for strong wind gusts and dust without active convection at the terminals, but some erratic wind shifts will be possible should thunderstorms develop. Otherwise, winds continue to generally remain southerly at 5-10 knots, but a shift to the west is expected late this afternoon and evening. A more typical diurnal pattern of winds is expected tomorrow with skies generally clearing by sunrise.

Southeast California/Southwest Arizona including KIPL and KBLH:

Skies are generally clearing with only very high clouds above 20 kft at both terminals. Breezy southerly flow has already redeveloped at KBLH with gusts up to 25-30 knots lasting through about 02Z. Winds will remain elevated at 10-15 knots overnight and tomorrow morning before gusts pick back up to 25-30 knots late tomorrow morning. KIPL currently has light and variable winds, but

June 17, 2018 Exceptional Event, Imperial County**Appendix A**

stronger westerly 15-20 knot winds gusting to 25 knots should develop late this afternoon through the evening hours before weakening below 10 knots overnight.

Aviation Discussion not updated for amended TAFs.

&&

.FIRE WEATHER...

Monday through Friday:

High pressure and dry westerly flow aloft to keep dry conditions in place across the region for the entire period. Daily minimum humidities are expected to fall into the 8-13 percent range each day, with poor-fair overnight recoveries. Below normal temperatures on Monday to recover to near, or slightly above normal by Thursday and Friday. Winds to mainly follow typical diurnal patterns, with some gustiness possible during the afternoon hours.

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.SPOTTER INFORMATION STATEMENT...

Spotter reports may be needed through Saturday.

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.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...None.

CA...None.

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DISCUSSION...Hopper/Deemer

AVIATION...Hopper

FIRE WEATHER...Percha

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362

FXUS66 KSGX 162102

AFDSGX

Area Forecast Discussion

National Weather Service San Diego CA

200 PM PDT Sat Jun 16 2018

.SYNOPSIS...

A trough moving down the West Coast will bring another cooler than average day Sunday along with a very deep marine layer. Areas of light rain and drizzle are likely west of the mountains Sunday morning. The trough will lift north on Monday followed by significantly warmer days Tuesday through Thursday as high pressure builds aloft.

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.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE...
SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO
COUNTIES...

Marine layer clouds were reluctant to clear from Orange County and the coastal sections of San Diego County this afternoon, but cleared from the Inland Empire and most of the San Diego Valleys. Mountains and Deserts were generally sunny today with high clouds at times.

The marine layer will be even deeper Sunday morning as a cold trough over northern CA digs south. The stronger onshore flow, a weak coastal eddy, and broad cyclonic flow aloft will likely bring areas of light rain and drizzle west of the mountains Sunday morning. Clouds will fill the Cajon Pass and spill over the crest a short distance into the high desert. Clearing will be slow on Sunday, and stratocu will form in areas that do see some clearing.

Sunday will be a cool day, relative to the average highs for June, with highs 5 degrees below average in the coastal zones and 10-20 degrees below average elsewhere. Blustery northwest winds will impact the mountains and deserts with gusts of 40 to 50 mph in the San Geronio Pass and the other east-west mountain passes.

The trough lifts northeast Monday and high pressure will build over SoCal and northern Baja Tuesday and Wednesday. Warming will be rapid with temperatures from 5-10 degrees above average in the inland areas. The marine layer will turn much shallower as the high builds, but the shallow marine layer will temper the coastal highs. The ridge breaks down beneath a deepening longwave trough over the West for minor cooling next Friday and Saturday.

&&

.AVIATION...

June 17, 2018 Exceptional Event, Imperial County**Appendix A**

162030Z...Coast/Valleys...Low clouds with bases 2000-2500 ft MSL and tops near 3500 feet persist along the coast and valleys while skies have cleared over the inland empire. Expect BKN MVFR conditions to continue for the coastal terminals (KSAN/KCRQ/KSNA) most of the day though may scatter out for brief periods through 00Z. Haze (visibility 4-6SM) is expected for the inland empire terminals. Low clouds will quickly spread back into the valleys after 17/02Z, reaching the lower coastal mountain slopes overnight. Expect a deeper marine layer tonight/Sunday morning with bases 1200-1800 ft MSL and tops around 3500 ft MSL. Periods of light rain and drizzle are expected 09-15Z with visibilities locally reduced to 3-5SM. Low clouds will persist most of Sunday but will clear out by midday inland valleys.

Mountains/Deserts...VFR conditions. Winds will become northwest 15-25 kts with local gusts 25-35 kts after 21Z today over the desert mountain slopes/desert foothills and through the passes and canyons. Areas of MOD UDDFS and LLWS possible over and NE of the mountains this afternoon through tonight. Lower coastal slopes of the mountains becoming obscured in clouds/fog late tonight.

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.MARINE...

No hazardous marine weather is expected through Thursday.

&&

.SKYWARN...

Skywarn activation is not requested. However weather spotters are encouraged to report significant weather conditions.

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.SGX WATCHES/WARNINGS/ADVISORIES...

CA...NONE.

PZ...NONE.

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PUBLIC...Moede

AVIATION/MARINE...Moreland

**IOWA STATE
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College of Ag

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822

FXUS65 KPSR 162306

AFDPSR

Area Forecast Discussion

National Weather Service Phoenix AZ

406 PM MST Sat Jun 16 2018

.SYNOPSIS...

Isolated to scattered showers and thunderstorms will end from southwest to northeast tonight with the best chances along the higher terrain north and east of the Phoenix metro. Dry air will overspread the region beginning tomorrow as temperatures gradually warm back up over the next week. Above normal temperatures will return by the middle of next week as high pressure rebuilds over the southwestern United States with rainfall not expected over the next seven days.

&&

.DISCUSSION...

Deep tropical moisture associated with Tropical Storm Bud continues to interact with a midlevel trough whose circulation is centered over south central Arizona, leading to extensive cloud cover and isolated to scattered showers and thunderstorms. Significant clearing and midlevel drying has occurred west of this feature over southeast California and the Lower Colorado River Valley, where gusty 20-30 mph south-southwesterly winds will be the main impact for the afternoon and evening hours. This midlevel drying is now beginning to move into the Phoenix metro, which combined with a stable layer at 15-20 kft that has persisted throughout the day, has helped limit convection from becoming too deep today for most areas. Most cells have developed along the higher terrain mainly north and east of central Phoenix and along a weak outflow boundary south of the metro.

Convective cells that have developed today have typically not lasted much longer than an hour, but they continue to be very efficient rainfall producers. Considering that we have near to record-level precipitable water values for June in place across south central Arizona, very isolated cells producing rainfall rates of 1-2 inches per hour for at least the next few hours are not out of the question before this activity pushes completely north and east of the region. We have already observed this with a cell near Cave Creek which prompted the issuance of a Flash Flood Warning, but this cell has quickly dissipated since similar to other cells today. Although we cannot rule out the possibility of another cell producing an isolated flash flood, current hi-res trends suggest convection should quickly push northeast into Gila County within the next few hours before moving out of the county warning area later this evening.

June 17, 2018 Exceptional Event, Imperial County**Appendix A**

Much drier conditions will move into the region tomorrow as dry southwest flow aloft is maintained by the closed low pressure system aloft that will push into the Great Basin. Wind gusts to 25-30 mph will once again be possible tomorrow for the Lower Colorado River Valley and southeast California, with gusts to 15-20 mph possible elsewhere. Temperatures will continue to gradually warm up throughout the week, with above normal temperatures expected for the second half of the work week as high pressure aloft builds back over the southwest United States. This ridge will gradually slide west into the Pacific as a trough moves into the central Plains, keeping south central Arizona and southeast California in a northwest flow aloft to keep moisture and rainfall away from both areas into next weekend.

&&

.AVIATION...

South-Central Arizona including KPHX, KIWA, and KSDL:

Shower activity is generally beginning to push northeast of the Phoenix terminals with brief clearings and lifted ceilings noted across the area. Another round of showers and thunderstorms is still possible later this afternoon between 22-01Z as these clearings may help destabilize the area, but chances are less than 20 percent so we have left any mention of TS out of the TAFs at this time. For now, we just have vicinity showers ending from west to east this afternoon, with chances lasting longer at KIWA and KSDL where moisture and forcing from terrain may help sustain this activity. Brief periods of MVFR ceilings will be possible at all terminals associated with any convective activity that develops, which we will handle with amendments as needed.

Conditions should be too moist to allow for strong wind gusts and dust without active convection at the terminals, but some erratic wind shifts will be possible should thunderstorms develop. Otherwise, winds continue to generally remain southerly at 5-10 knots, but a shift to the west is expected late this afternoon and evening. A more typical diurnal pattern of winds is expected tomorrow with skies generally clearing by sunrise.

Southeast California/Southwest Arizona including KIPL and KBLH:

Skies are generally clearing with only very high clouds above 20 kft at both terminals. Breezy southerly flow has already redeveloped at KBLH with gusts up to 25-30 knots lasting through about 02Z. Winds will remain elevated at 10-15 knots overnight and tomorrow morning before gusts pick back up to 25-30 knots late tomorrow morning. KIPL currently has light and variable winds, but stronger westerly 15-20 knot winds gusting to 25 knots should develop late this afternoon through the evening hours before weakening below 10 knots overnight.

Aviation Discussion not updated for amended IAFs.

&&

.FIRE WEATHER...

Monday through Friday:

High pressure and dry westerly flow aloft will keep dry conditions in place across the region for the entire period. Daily minimum relative humidities are expected to fall into the 7-13 percent range each day, with relatively poor recovery overnight. Temperatures will remain below or near normal through Wednesday before increasing back above normal for the second half of next week. Winds will generally follow typical diurnal patterns, with some gustiness possible during the afternoon hours.

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.SPOTTER INFORMATION STATEMENT...

Spotter reports may be needed through Saturday evening.

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.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...None.

CA...None.

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DISCUSSION...Hopper/Deemer

AVIATION...Hopper

FIRE WEATHER...Hopper/Percha

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347

FXUS66 KSGX 170406

AFDSGX

Area Forecast Discussion

National Weather Service San Diego CA

906 PM PDT Sat Jun 16 2018

.SYNOPSIS...

A trough moving down the West Coast will bring another cool day Sunday along with a very deep marine layer. Areas of light rain and drizzle are likely west of the mountains tonight through Sunday morning. The trough will lift north on Monday followed by high pressure and much warmer days the rest of the week.

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.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE...
SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO
COUNTIES...

A robust coastal eddy kept the marine layer healthy and happy today. Low clouds didn't clear at all across much of the coastal basin, but weak sunshine did peek through the clouds from time to time. The Inland Empire joined the mountains and deserts under blue skies. The low clouds are already roaring inland as the already deep marine layer deepens further, and could reach 6000 feet deep before long. There have been a few reports of drizzle or light rain even before sunset, so areas of that wet stuff will be a good forecast tonight and Sunday morning. A low pressure trough diving south through California tonight is the main cause of our marine layer on steroids. The onshore flow has increased, pushing strong winds in the mountains and deserts this evening with a few spots gusting over 40 mph. Some blowing dust crossing the Salton Sea could be seen on the satellite image before dark. Similar winds through mountain passes and adjacent deserts are expected late Sunday. The trough to our north will weaken and begin to lift out late Sunday and Monday. That will mean a warming trend and a less-prolific marine layer. Models are in good agreement about strengthening a high pressure ridge over Southern California. The ridge peaks out Tuesday through Thursday, producing high temperatures in the 90s for the inland valleys and approaching 110 again in the lower desert. The marine layer and its night and morning clouds will not go away, but will be restricted to coastal areas and western valleys. Typical June or early July weather, but on the warmer, sunnier side.

&&

.AVIATION...

160400Z...Coast/Valleys...Widespread low clouds with bases 2000-3500
ft MSL and tops near 4000 feet will persist through Sunday morning

June 17, 2018 Exceptional Event, Imperial County**Appendix A**

across all coastal and valley areas. Bases could occasionally lower to around 1500 ft MSL. Periods of light rain and drizzle are expected to continue through Sunday morning visibilities occasionally reduced to 3-5SM. Where low clouds interact with terrain, visibility could lower to 1 SM at times. Low clouds will persist most of Sunday but will clear out by midday for the inland valleys.

Coastal Mountain Slopes/Mountains/Deserts...As low clouds spread inland overnight, clouds will reach the coastal mountain slopes and through some of the mountain passes through Sunday morning. Low clouds interacting with the mountains could cause dense fog to form at times with visibilities below one mile possible through Sunday morning. Low clouds and fog will dissipate near the mountains by midday Sunday. Winds will continue to be breezy with gusts at times to 35 kts through Sunday morning. Areas of MOD UDDFS and LLWS possible over and NE of the mountains through Sunday morning.

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.MARINE...

No hazardous marine weather is expected through Thursday.

&&

.SKYWARN...

Skywarn activation is not requested. However weather spotters are encouraged to report significant weather conditions.

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.SGX WATCHES/WARNINGS/ADVISORIES...

CA...NONE.

PZ...NONE.

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PUBLIC...MM

AVIATION/MARINE...Brotherton

IOWA STATE UNIVERSITY

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Department of Agronomy

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053

FXUS66 KSGX 170958

AFDSGX

Area Forecast Discussion

National Weather Service San Diego CA

258 AM PDT Sun Jun 17 2018

.SYNOPSIS...

Low pressure settling over the West and a coastal eddy will continue strong onshore flow and a deep marine layer today, extending well up the coastal slopes of the mountains where dense fog is likely. Areas of drizzle are possible as well, with minor accumulations expected.

Gusty westerly winds will continue over the mountains and deserts, funneling cool, marine air well inland. The trough will be replaced by strong high pressure aloft this week for seasonally hot weather by midweek over the mountains and deserts, while the sea breeze keeps areas west of the mountains moderated.

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.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE...
SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO
COUNTIES...

At 2 AM PDT...the coastal basin was filled with marine stratus that extended 5300 FT up onto the mountain slopes. The onshore sfc pressure gradient was still about 13 MBS KSN to SW NV supporting westerly wind gusts over 50 MPH through both the San Geronimo Pass and the Mountain Springs I-8 grade into Imperial County. Some precip was indicated near the Cajon Pass, otherwise remote rain gauges were not recording any precip through 2:30 AM and no drizzle reports were received since much earlier yesterday evening.

Expect the marine stratus will thin in some spots today, but overall skies will be partly to mostly cloudy with temps well below average. Some drizzle, sprinkles, or a few light showers are still possible through mid morning, but the apparent depth of the cloud layer and higher bases suggest little will occur. That is supported by the latest HRRR run. Dense fog is occurring near 5000 Ft in the mtns and will be a potential hazard to motorists through the Cajon Pass and on other mountain roads. Farther east into the deserts gusty westerly winds will continue.

A cold, low pressure trough is settling SE into the Great Basin today, continuing to drive strong onshore flow and a deep marine layer over SoCal. The trough will weaken and lift NE through Wednesday as strong high pressure builds aloft over SoCal. This will shrink the marine layer back toward the coast in short order and bring more seasonal weather inland. As a matter of fact it will be quite warm over the mts and deserts with max daytime temps back above average by midweek.

June 17, 2018 Exceptional Event, Imperial County**Appendix A**

Temperatures will be closer to average along the coast and western valley areas after Monday, where the marine stratus deck may become more difficult to clear completely due to the strengthening low-level inversion.

Later in the week...The global models show low pressure again developing over the Great Basin, while high pressure retrogrades back westward over the EastPac. This should bring a cooling trend next weekend as the marine layer gradually rebuilds inland into the final week of the month. The pattern depicted by the models all the way out through 240 hours maintains a dry westerly flow aloft with no sign of the monsoon, which is expected.

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.AVIATION...

170915Z...Coast/Valleys/Coastal Mountain Slopes...BKN-OVC cloud layers with bases 2500-4000 ft MSL and tops to 5500 ft MSL and areas of drizzle continuing through mid-morning. Coastal slopes remaining obscured in clouds and dense fog through this morning, with local obscurations continuing through the day. Low clouds becoming SCT in the inland valleys after 17Z, remaining BKN-OVC along the coast and coastal valleys through the afternoon with bases generally above 3000 ft MSL. Low clouds filling in after 18/03Z with bases lowering to 1500-2500 ft MSL and tops to 3000 ft MSL.

Desert Mountain Slopes/Deserts... Southwest to west winds with surface gusts 30-40 kt will continue through about 18/06Z, then diminishing overnight. Areas of MOD UDDFS and LLWS possible over and NE/E of the mountains through late this evening.

&&

.MARINE...

Northwest winds gusting to near 20 kt will develop over the coastal waters Monday afternoon and evening. Otherwise, no hazardous marine weather is expected through Thursday.

&&

.SKYWARN...

Skywarn activation is not requested. However weather spotters are encouraged to report significant weather conditions.

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.SGX WATCHES/WARNINGS/ADVISORIES...

CA...NONE.

PZ...NONE.

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062

FXUS66 KSGX 171709

AFDSGX

Area Forecast Discussion

National Weather Service San Diego CA

1010 AM PDT Sun Jun 17 2018

.SYNOPSIS...

A trough of low pressure over the West will bring a cool day today with a deep marine layer and strong onshore flow. Gusty westerly winds will continue over the mountains and deserts, funneling cool, marine air well inland. The trough will be replaced by strong high pressure aloft later this week for hot, dry weather in the valley, mountain and desert areas Wednesday through Friday. A sea breeze will moderate coastal temperatures.

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.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE...
SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO
COUNTIES...

A cold 561 dm low pressure trough centered over northern California this morning brought an exceptionally deep marine layer to southern California this morning with cloud tops up to 5600 feet. Cloud bases were around 3000 feet, resulting in a cloud depth around 2600 feet. Despite the deep marine layer, there wasn't much in the way of light rain and drizzle in our area. The only measurable rain amounts were reported on the southwest facing slopes of the SBD County mountains where Crestline Ridge (el 5300 ft) reported 0.18", and Cable Canyon (el 5516 ft) reported 0.08". Reports of measurable rain were more widespread over LA, Ventura and Santa Barbara Counties.

Clouds were thinning quickly over the Inland Empire and inland Orange County this morning. But with such a deep moist layer in place, solar insolation from the June sun has already produced enough surface heating for stratocumulus to form in those areas.

The outlook for next week is for a rapid warmup as the trough lifts northeast and is replaced by a strong 594 dm ridge that will park itself directly over SoCal. So we will go from cool weather today with temperatures 15 degrees below average in the valley, mountain and desert areas, to hotter weather with high max temps 5 degrees above average Wednesday through Friday. Current forecast on track.

From Previous Discussion

The trough will weaken and lift NE through Wednesday as strong high pressure builds aloft over SoCal. This will shrink the marine layer back toward the coast in short order and bring more seasonal weather inland. As a matter of fact it will be quite warm over the mts and

June 17, 2018 Exceptional Event, Imperial County**Appendix A**

deserts with max daytime temps back above average by midweek.

Temperatures will be closer to average along the coast and western valley areas after Monday where the marine stratus deck may become more difficult to clear completely due to the strengthening low-level inversion.

Later in the week...The global models show low pressure again developing over the Great Basin, while high pressure retrogrades back westward over the EastPac. This should bring a cooling trend next weekend as the marine layer gradually rebuilds inland into the final week of the month. The pattern depicted by the models all the way out through 240 hours maintains a dry westerly flow aloft with no sign of the monsoon.

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.AVIATION...

171630Z...Coast/Valleys/Coastal Mountain Slopes...BKN-OVC cloud layer with bases 2500-3500 ft MSL and tops to 5000 ft MSL persist over the terminals. Expect ceilings to continue through the day but should mainly be above 3000 ft MSL during the afternoon. Partial clearing may occur at KSBD/KONT after 20z. Expect low clouds to remain in place tonight with bases lowering to 1500-2500 ft MSL and tops to 3000 ft MSL for the coastal terminals with coastal mountain slopes becoming obscured. For the inland empire terminals low clouds will fill in again 02-04z tonight.

Desert Mountain Slopes/Deserts...The main concern will be strong wind gusts late this afternoon and evening. North to northwest winds with surface gusts 30-40 kt are expected from 22z to 06z. Areas of MOD UDDFS and LLWS possible over and NE/E of the mountains through late this evening.

&&

.MARINE...

Northwest winds gusting to near 20 kt will develop over the coastal waters Monday afternoon and evening. Otherwise, no hazardous marine weather is expected through Thursday.

&&

.SKYWARN...

Skywarn activation is not requested. However weather spotters are encouraged to report significant weather conditions.

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.SGX WATCHES/WARNINGS/ADVISORIES...

CA...NONE.

PZ...NONE.

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036

FXUS65 KPSR 171946

AFDPSR

Area Forecast Discussion

National Weather Service Phoenix AZ

1246 PM MST Sun Jun 17 2018

.SYNOPSIS...

Westerly flow aloft will keep dry air in place over the region. Building high pressure will lead to a warming trend with high temperatures climbing above normal during the latter half of the week.

&&

.DISCUSSION...

Current analysis shows troughing over the western U.S. with ridging over the eastern and much of the central U.S.. The subtropical ridge, is thankfully not (yet) over us, and is centered in the east Pacific west of Baja California.

The center of the aforementioned trough is over the Oregon/Nevada border and is resulting in dry westerly flow over our region. This flow has pushed our moisture eastward, with PW values decreasing in our neck of the woods. This morning's PHX sounding was showing a PW of .97 inches and currently GOES is showing a PW of .6 inches. Dry air will continue to filter into our region with zero chances for precipitation today. A tightened pressure gradient will also keep surface winds slightly elevated with gusts up to 20 to 30 mph. All in all, the remainder of Father's Day will consist of clear skies, breezy winds, and below normal temperatures with highs near the mid 90s across the lower deserts.

During the first half of the week, troughing over the western U.S. will linger and keep monsoon moisture well removed from our area. However, it will retreat northward as eastern Pacific ridging expands north and eastward. The good news is, the influence from the trough will keep temperatures below normal Monday and Tuesday, and closer to normal on Wednesday. Highs will be in the upper 90s on Monday and near or slightly above 105 on Wednesday. With no moisture, rain chances will be non-existent and skies will be clear.

During the latter half of the week, midtropospheric anticyclonic flow will be centered near San Diego which will maintain the dry flow pattern. By next weekend, the ridge gets weakened by a trough moving through portions of the western CONUS. Thus, additional warming will occur and lead to above normal temperatures Thursday and especially Friday. At this time, Heat Risk levels generally stay below the High category except for isolated small areas on Friday. Another positive note, with the dry air the low temps

June 17, 2018 Exceptional Event, Imperial County**Appendix A**

remain relatively cool.

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.AVIATION...

South-Central Arizona including KPHX, KIWA, and KSDL:

A drier southwesterly flow will develop today ahead of an approaching low pressure system across the Great Basin. This will result in a period of southerly crosswinds at KPHX with occasional gusts as high as 20 kt. Winds will veer to southwesterly later this afternoon, with gusts to 20 kt becoming more prevalent. Thereafter, winds will subside during the evening with a return to a downslope flow around 10z.

Southeast California/Southwest Arizona including KIPL and KBLH: Primary aviation weather concern will be windy conditions ahead of a low pressure system across the Great Basin. Winds could gust as high as 25 to 30 kt at KBLH later this afternoon, before subsiding during the evening.

Aviation Discussion not updated for amended TAFs.

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.FIRE WEATHER...

Tuesday through Saturday:

High pressure will build across the Desert Southwest, resulting in a warming trend, dry conditions and a return to above normal temperatures by Wednesday. Daily minimum relative humidities are expected to fall into the single digits each day, with relatively poor recoveries overnight. Winds will generally follow typical diurnal patterns, with some gustiness possible during the afternoon hours, particularly Friday and Saturday.

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.SPOTTER INFORMATION STATEMENT...

Spotter reports may be needed through Saturday evening.

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.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...None.

CA...None.

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DISCUSSION...Hernandez/AJ

AVIATION...Hirsch

FIRE WEATHER...Hirsch

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168

FXUS65 KPSR 172139

AFDPSR

Area Forecast Discussion

National Weather Service Phoenix AZ

239 PM MST Sun Jun 17 2018

.UPDATE...Updated Aviation and Fire Weather Discussions...

&&

.SYNOPSIS...

Westerly flow aloft will keep dry air in place over the region. Building high pressure will lead to a warming trend with high temperatures climbing above normal during the latter half of the week.

&&

.DISCUSSION...

Current analysis shows troughing over the western U.S. with ridging over the eastern and much of the central U.S.. The subtropical ridge, is thankfully not (yet) over us, and is centered in the east Pacific west of Baja California.

The center of the aforementioned trough is over the Oregon/Nevada border and is resulting in dry westerly flow over our region. This flow has pushed our moisture eastward, with PW values decreasing in our neck of the woods. This morning's PHX sounding was showing a PW of .97 inches and currently GOES is showing a PW of .6 inches. Dry air will continue to filter into our region with zero chances for precipitation today. A tightened pressure gradient will also keep surface winds slightly elevated with gusts up to 20 to 30 mph. All in all, the remainder of Father's Day will consist of clear skies, breezy winds, and below normal temperatures with highs near the mid 90s across the lower deserts.

During the first half of the week, troughing over the western U.S. will linger and keep monsoon moisture well removed from our area. However, it will retreat northward as eastern Pacific ridging expands north and eastward. The good news is, the influence from the trough will keep temperatures below normal Monday and Tuesday, and closer to normal on Wednesday. Highs will be in the upper 90s on Monday and near or slightly above 105 on Wednesday. With no moisture, rain chances will be non-existent and skies will be clear.

During the latter half of the week, midtropospheric anticyclonic flow will be centered near San Diego which will maintain the dry flow pattern. By next weekend, the ridge gets weakened by a trough moving through portions of the western CONUS. Thus, additional

June 17, 2018 Exceptional Event, Imperial County**Appendix A**

warming will occur and lead to above normal temperatures Thursday and especially Friday. At this time, Heat Risk levels generally stay below the High category except for isolated small areas on Friday. Another positive note, with the dry air the low temps remain relatively "cool."

&&

.AVIATION...

South-Central Arizona including KPHX, KIWA, and KSDL:

Drier southwesterly flow will persist through this evening resulting in gusty south southwesterly winds. Southerly crosswinds at KPHX with occasional gusts as high as 20 kt should turn more westerly by late afternoon. Thereafter, winds will subside during the evening with a return to a downslope flow around 10z.

Southeast California/Southwest Arizona including KIPL and KBLH:

Primary aviation weather concern will be windy conditions ahead of a low pressure system across the Great Basin. Winds could gust as high as 25 to 30 kt at KBLH later this afternoon, before subsiding during the evening. Light winds are anticipated for Monday.

Aviation Discussion not updated for amended TAFs.

&&

.FIRE WEATHER...

Wednesday through Sunday:

High pressure will build across the Desert Southwest, resulting in a warming trend, dry conditions and a return to above normal temperatures. Daily minimum relative humidities are expected to fall into the single digits each day, with relatively poor recoveries overnight. Winds will generally follow typical diurnal patterns, with some gustiness possible during the afternoon hours, particularly Saturday.

&&

.SPOTTER INFORMATION STATEMENT...

Spotter activation will not be needed.

&&

.PSR WATCHES/WARNINGS/ADVISORIES...

AZ...None.

CA...None.

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DISCUSSION...Hernandez/AJ

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FXUS66 KSGX 180413
AFDSGX

Area Forecast Discussion
National Weather Service San Diego CA
913 PM PDT Sun Jun 17 2018

.SYNOPSIS...

A warming trend is forecast this week as high pressure strengthens over Southern California. The marine layer will diminish and low clouds will be less extensive. Inland temperatures will rise well above average Tuesday through at least Thursday. It looks a little cooler next weekend as high pressure weakens.

&&

.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE...
SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO
COUNTIES...

Our marine layer this morning topped out at about 5500 feet, propped up by a weak coastal eddy and a low pressure trough over the West. Despite the odds stacked against them, the low clouds managed to clear out of many areas this afternoon, but not so much in Orange County (apologies to sun-loving Orange Countians). That trough helped spin up the eddy, but also brought cooler air into the entire region, so inland high temperatures today were well below average. In fact, Palomar Mountain and Borrego Springs broke their low max temp records for this date. The cooler air aloft weakened our marine inversion, which allowed the cool, moist marine air to mix with the warmer, drier air above it and evaporate more clouds. There were also some strong wind gusts over 50 mph this evening in isolated parts of the mountains and deserts, and stirred up some dust in Imperial County. Over the next few days, that low pressure trough will weaken and lift north while a high pressure ridge strengthens and bulges north into our region. That will tamp down the marine layer quite a lot and also cook the air mass to bring warmer weather inland this week. The overhead ridge is strongest Tuesday through at least Thursday, so those days will be hottest inland and well above average. Coastal temps will be much closer to seasonal and there is even some reassurance provided by some guidance suggesting a coastal eddy Wednesday. The shallower marine layer will mean coastal clouds will stay, well, coastal, each night and morning. And more sunshine in all areas. However, if the marine inversion becomes really strong, possibly on Wednesday and Thursday, we could get clouds sticking to beaches all day. As next weekend approaches, models show some breakdown of the ridge under a trough passing to the north. This little dent in the ridge looks sufficient to bring temperatures back down and coastal clouds back up, closer to seasonal levels.

&&

.AVIATION...

180400Z...Coast/Valleys/Coastal Mountain Slopes...BKN-OVC cloud layer with bases 2000-3000 ft MSL and tops to 4000 ft MSL will persist overnight for the coastal terminals with coastal mountain slopes becoming obscured later in the period. For the inland empire terminals, low clouds will fill in again through about 07z. Cloud cover should burn off more quickly Monday with most terminals becoming SCT 17-18z.

Desert Mountain Slopes/Deserts...The main concern will be strong wind gusts late this evening. North to northwest winds with surface gusts up to 30-40 kt are expected through about 08z. Areas of MOD UDDFS and LLWS possible over and NE/E of the mountains through late this evening along with areas of blowing dust/sand.

&&

.MARINE...

A period of stronger winds (around 20 knots) and higher seas are expected Monday afternoon and evening. Otherwise, no hazardous marine weather is expected through Friday.

&&

.SKYWARN...

Skywarn activation is not requested. However weather spotters are encouraged to report significant weather conditions.

&&

.SGX WATCHES/WARNINGS/ADVISORIES...

CA...NONE.

PZ...NONE.

&&

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PUBLIC...MM

AVIATION/MARINE...Brotherton

IOWA STATE UNIVERSITY

College of Ag

Department of Agronomy

June 17, 2018 Exceptional Event, Imperial County**Appendix A**

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PNSSGX

CAZ043-048-050-055>058-060>062-065-552-554-190020-

Public Information Statement

National Weather Service San Diego CA

520 AM PDT Mon Jun 18 2018

...WIND REPORTS...

Location	Speed	Time/Date	Elevation (ft.)
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...San Gorgonio Pass Near Banning...

White Water Raws	62 MPH	0850 PM 06/17	2546
Thousand Palms (5 NNE)	51 MPH	1213 AM 06/18	1066
Desert Hot Springs (5 W)	51 MPH	0245 PM 06/17	1510
Cabazon	34 MPH	1214 PM 06/17	2154

...San Diego County Mountains...

Harrison Park	47 MPH	0410 PM 06/17	4861
Volcan Mountain	47 MPH	0420 PM 06/17	5154
Boulevard (1 W)	42 MPH	0530 PM 06/17	3404
Ranchita	39 MPH	0540 PM 06/17	4128
Ranchita (1 NE)	38 MPH	0407 PM 06/17	4415
Descanso (8 NE)	34 MPH	0440 PM 06/17	4740
Boulevard (5 NW)	33 MPH	0500 PM 06/17	4114
Warner Springs (4 SE)	32 MPH	0410 PM 06/17	3242
Julian Fire Station	31 MPH	0255 PM 06/17	4238
5 S Julian	30 MPH	1247 PM 06/17	4637

...San Diego County Deserts...

Ocotillo Wells (4 W)	39 MPH	0706 AM 06/17	436
Borrego Springs (7 SE)	36 MPH	0938 PM 06/17	587
In Ko Pah	36 MPH	0200 PM 06/17	3221
Borrego Springs (2 E)	34 MPH	0230 PM 06/17	720
Julian (9 ESE)	33 MPH	0757 AM 06/17	2011
Borrego Springs (9 S)	31 MPH	0610 AM 06/17	768

...San Bernardino County Mountains...

Mormon Rock	33 MPH	0116 PM 06/17	3300
Banning (4 NW)	31 MPH	0313 PM 06/17	3609
Crestline	30 MPH	0331 PM 06/17	5298
Running Springs (2 NW)	30 MPH	0415 PM 06/17	6350
Rock Camp	30 MPH	0402 PM 06/17	4900

...Riverside County Mountains...

Pinyon Pines	34 MPH	0536 PM 06/17	4060
Pine Cove (8 NW)	31 MPH	0201 PM 06/17	4906

...Orange County Coastal...

Laguna Beach (1 SW)	33 MPH	1237 PM 06/17	84
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June 17, 2018 Exceptional Event, Imperial County**Appendix A**

...Coachella Valley...

Thousand Palms	43 MPH	1005 PM 06/17	272
Thousand Palms (5 NE)	34 MPH	1032 PM 06/17	1089
Palm Springs Airport	32 MPH	0741 PM 06/17	474
Thermal Airport	32 MPH	0804 PM 06/17	-118
Coachella	30 MPH	1105 PM 06/17	110
Indio Fire Station	30 MPH	0645 PM 06/17	26

...Apple and Lucerne Valleys...

Victorville Airport	46 MPH	0755 PM 06/16	2884
Hesperia (5 SW)	43 MPH	1050 AM 06/17	3723
Lucerne Valley (1 SW)	39 MPH	1251 PM 06/17	3034
Adelanto	34 MPH	0103 PM 06/17	2943
Victorville (6 SW)	33 MPH	1041 AM 06/17	3164
Means Lake	32 MPH	0526 PM 06/17	2818
Apple Valley Airport (KAPV)	31 MPH	0355 PM 06/17	3062
Hesperia (2 E)	30 MPH	0202 PM 06/17	3051

Observations are collected from a variety of sources with varying equipment and exposures. We thank all volunteer weather observers for their dedication. Not all data listed are considered official.

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